

Aero Design Ltd.**Work Order Control Sheet**Work Order#: **2017-173** Date Opened: **26 October 17** Title: **Fabrication**Aircraft OEM: **Bell** Aircraft Model: **206L/407** Product Type: **Cargo Basket** Product Model: **Ski Lid** Quantity: **1****Work Order Contents**

Work Order/Build Sheets (Procedures Provided)
Additional Work Sheets (Standard Practice)
Drawings (See List Below)
Parts Distribution Sheet
Sub Component Tags
Completed Certification (Original)
Time Sheet (R&D)
Notes

Initial or N/A

JC
N/A
JC
JC
N/A
JC
N/A
N/A

Build Sheet Contents

Tasks Initialled
Dual Inspections Initialled

Initial or N/A

JC
JC

Drawing List

Drawing #	Rev #	Description	Initial or N/A
94612	0	Lid Assembly	JC
70405	4	Lid Step Modification	JC
84263	0	Handle Prov. Assm.	JC

Traveller**Component Completion**

Quantity Complete on This Work Order
Quantity Incomplete on This Work Order
Further Processing Required Before Release
Release to Stock as Components

As Instructed

1
N/A
N/A
N/A

Certification

Form One Completed
Serviceable (Green) Tag Completed
In Process (Yellow) Tag Completed
Unserviceable (Red) Tag Completed
Parts Placed in Stores for Distribution

Initial or N/A

N/A
N/A
DM
N/A
N/A

Additional Documentation

Documentation of a minor change
Non-Conformance Report Required
Service Difficulty Report Required

Initial or N/A

N/A
N/A
N/A

Billing

Local (Aero Design)
Research and Development
Third Party

Initial or N/A

JC
N/A
N/A

Notes:

Work performed by:

ICC / Dual Inspection performed by:

Work Order closed by:

Print: J. Francis/J. Rekve

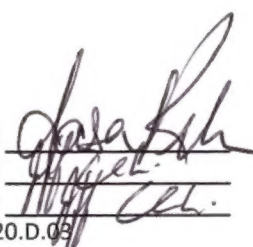
Print: J. Clarke

Print: C. Brander/J. Clarke

Sign:

Sign:

Sign:



SCA: AD01

SCA: AD02

SCA: AD02

Date: 14-Nov-17

Date: 15-Nov-17

Date: 23-Nov-17

Approved Manufacturing Facility 73-04

Form 20.D.03

Rev. Original 23 Sep 2014

2017-173

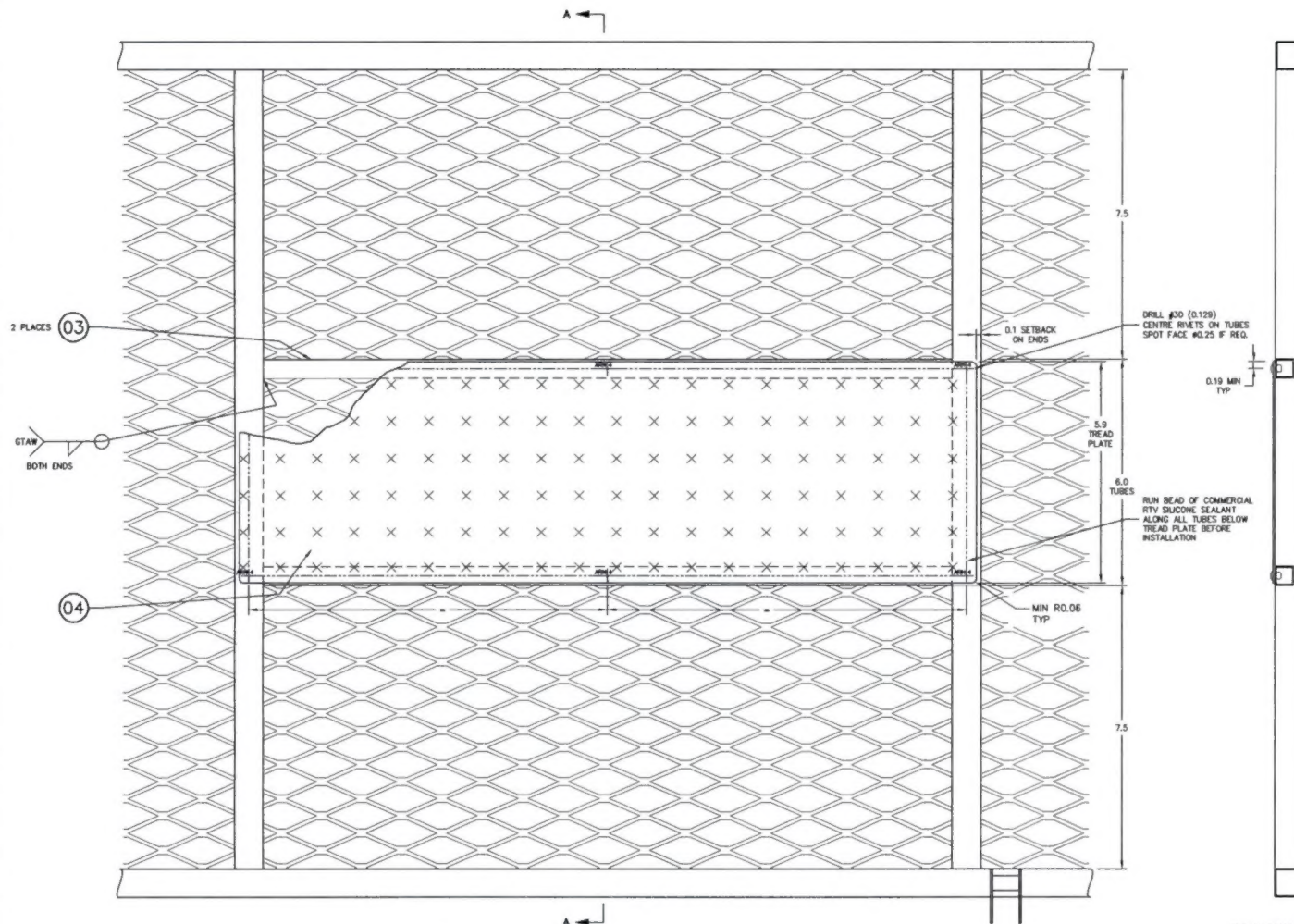
01 BASKET LID ASSEMBLY
RIGHT HAND ASSEMBLY SHOWN, LEFT HAND OPPOSITE

DETAIL B
LOOKING AT BOTTOM

DETAIL A
LOOKING AT TOP

A/R	3/4-16F	06	1/2" H	MILD STEEL	COMMERCIAL		
1	36204-10	05	PLACARD BRACKET				
2	84262	04	UPPER HANDLE BRACKET ASSY				
2	49216-09	03	SPACER				
A/R	--	02	TUBE	4130 STEEL, COND. N	MIL-T-6736	0.75 X 0.035 SQR	TUBE
1	68B12-01	01	BASKET LID ASSEMBLY				
D1	PART NO.	ITEM	DESCRIPTION	MATERIAL	MATERIAL SPEC	STOCK SIZE	
QTY				LIST OF MATERIALS			
APPROVALS DATE DRAWN: JEFF CLARKE 29 SEPT 2011 CHECKED: E. BURGIN UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. TOLERANCES ON: DECIMALS ANGLES X.XXX ±0.010 ±1/2" X.XX ±0.03 X.X ±0.1				AERO DESIGN LTD. CONSULTING ENGINEERS, TRANSPORT CANADA APPROVALS, DAR 2908 2013 - 597H AVENUE N.E., CALGARY, ALBERTA, CANADA, T2E 6R7 tel: (403) 260-8027 fax: (403) 260-8338 aeredesign@aeroplanet.net			
SCALE 1 : 4 SHEET 1 OF 1				DIM. SCALE A1	DIM. NO. 94612	REV. 0	

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REV.	DESCRIPTION OF CHANGE	INITIALS	DATE
1	ADD BELL MEDIUM AND EUROCOPTER AS350 BASKETS, CHANGE TUBES	BJC	MAR 19/08
2	ADD EUROCOPTER EC135, MCDONNELL DOUGLAS MD600N, BELL 206B BASKETS	BJC	DEC 4/08
3	ADD NEW AS350 AND 206L/407 MODELS	BJC	DEC 4/08
4	TITLE BLOCK UPDATED; MODEL LIST REMOVED; ADD ALT. RIVET; ADD NOTE 7	BJC	29/05/2014



01 BASKET LID ASSEMBLY

SECTION A-A

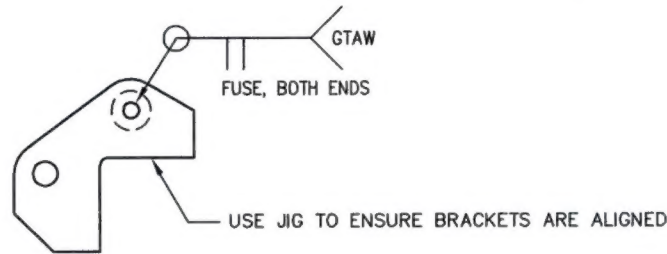
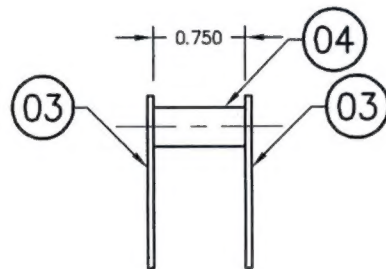
NOTES:

- THIS DRAWING IS AN OPTIONAL CONFIGURATION ADDING A TREAD PLATE STEP TO THE LID. THIS CONFIGURATION MAY BE APPLIED TO ANY OR ALL BAYS OF THE LID. REMAINDER OF LID ASSEMBLY IS TO BE FABRICATED IN ACCORDANCE WITH THE APPLICABLE DRAWINGS.
- TUBES (ITEM 03) MUST BE WELDED IN PLACE BEFORE MESH IS WELDED ON BOTTOM.
- REMOVE ALL BURRS AND BREAK SHARP EDGES.
- WELDING OF 4130 STEEL TO BE COMPLETED BY GTAW METHOD TO AMS 2685C. WELDING ROD SHALL CONFORM TO ER70S-2 OR EQUIVALENT.
- WHEN ASSEMBLY IS COMPLETE, FILL ALL VENT HOLES WITH ROSETTE WELD.
- THOROUGHLY CLEAN AND POWDER COAT BASKET SUB-ASSEMBLIES PRIOR TO ASSEMBLY. INSTALL TREAD PLATE AFTER POWDER COATING.
- WIDTH AND POSITION OF LID STEP MAY BE ADJUSTED TO MATCH LID DOOR INSTALLED IN ACCORDANCE WITH DRAWING 70402 ON ADJOINING BAY OF THE LID.

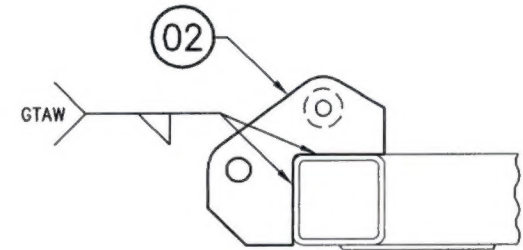
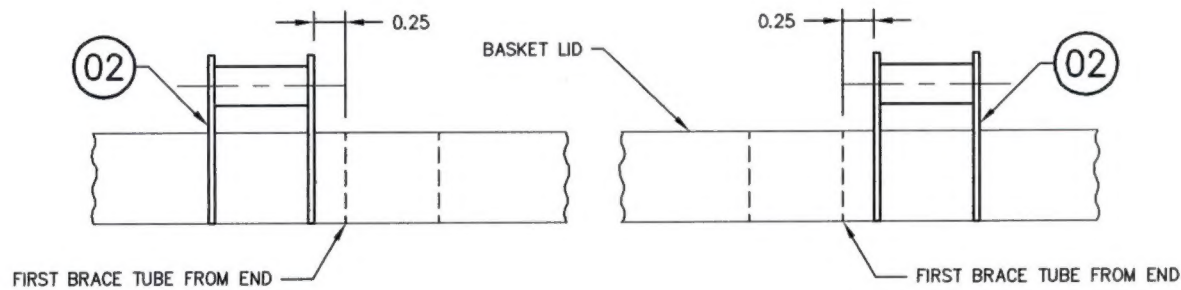
A/R	GR3213-4-02	BLIND RIVET	ALTERNATE: HR3213-4-02			
1	70405-04	04 TREAD PLATE	ALUMINUM	COMMERCIAL	0.083 TREAD PLATE	
2	70405-03	03 TUBE	4130 STEEL COND. N	MIL-T-6736	0.5 X 0.035 WALL TUBE	
1	SEE NOTE 1	02 BASKET LID ASSEMBLY				
1	70405-01	01 BASKET LID ASSEMBLY - MODIFIED WITH STEP				
Q1	PART NO.	ITEM	DESCRIPTION	MATERIAL	MATERIAL SPEC	STOCK SIZE
QTY	LIST OF MATERIALS					

BASIC CODE		DASH NO. FOR DIAMETER		APPROVALS		DATE		LIST OF MATERIALS	
REF. HAS 523		N=MFD. HEAD NEAR SIDE F=MFD. HEAD FAR SIDE		DRAWN: JEFF CLARKE		21 SEPT 2006		AERO DESIGN LTD.	
C=COUNTERSINK D=DIMPLE DIGIT=# OF SHEETS TO BE DIMPLED		DASH NO. FOR LENGTH		CHECKED: E. BURGON				9808A MALASPINA ROAD POWELL RIVER, BC, CANADA, V8A 0G3 TEL: 804.480.3276 www.aerodesign.ca	
BASIC CODES: BJ=MS20470AD BB=MS20426AD ARN=CR3213 ARN=CR3212		+ L INSTALL NEW RIVET + U REMOVE/REPLACE RIVET - X EXISTING RIVET		UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. TOLERANCES ON: DECIMALS ANGLES X.XXX ±0.010 ±1/2° X.XX ±0.03 X.X ±0.1				CARGO BASKET LID STEP MODIFICATION	
SCALE 1:1.5		SHEET 1 OF 1		A1		70405		4	

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REV.	DESCRIPTION OF CHANGE	INITIALS	DATE
0	INITIAL ISSUE - CREATED FROM 84262 REV. 1	BJC	14/02/2014



02 HANDLE BRACKET ASSEMBLY



01 LID HANDLE PROVISIONS ASSEMBLY

NOTES:

1. REMOVE ALL BURRS AND SHARP EDGES.
2. WELDING TO BE COMPLETED BY GTAW METHOD TO AMS2685C USING ROD CONFORMING TO ER308L OR EQUIVALENT.

1		36275-02	04	SUPPORT
2		36273-01	03	LID BRACKET
	2	84263-02	02	HANDLE BRACKET ASSEMBLY
		84263-01	01	LID HANDLE PROVISIONS ASSY
02	01	PART NO.	ITEM	DESCRIPTION
QTY	QTY	LIST OF MATERIALS		

APPROVALS	DATE
DRAWN: JEFF CLARKE	14 FEB 2014
CHECKED: JASON REKVE	

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES.
TOLERANCES ON:
DECIMALS ANGLES
X.XXX ± 0.010 $\pm 1/2^\circ$
X.XX ± 0.03
X.X ± 0.1



AERO DESIGN LTD.

9888A MALASPINA ROAD
POWELL RIVER, BC, CANADA, V8A 0G3
TEL: 604.483.8376 www.aerodesign.ca

HELICOPTER CARGO BASKET
LID HANDLE PROVISIONS ASSEMBLY

SCALE 1 : 1	DWG. SIZE	DWG. NO.	REV.
SHEET 1 OF 1	A3	84263	0

CARGO BASKET LID FABRICATION - COMMON**General**

These instructions apply to all cargo basket lid assemblies. Refer to the following drawings, at the current revision, for dimensions and details:

Bell 206L/407 – Right side only

69812, Revision 3 – Standard Low Mounted Basket; Extra-Wide Low Mounted Basket

94612, Revision 0 – Extra-Wide Low Mounted Ski Basket

76612, Revision 0 – High Mounted Ski Basket

**Eurocopter AS350/AS355 – left or right**

77612, Revision 1 – Short Basket

69812, Revision 3 – Medium Basket (left and right)

78412, Revision 2 – Long Basket

94012, Revision 0 – Extra Large (ski) Basket

Robinson R44 – left or right

90612, Revision 0 – Standard Basket (left or right)

Bell 206B – right side only

80212, Revision 0 – Short Basket

80312, Revision 0 – Medium Basket

81112, Revision 0 – Long Basket

Bell 429 – right or left

95912, Revision 0 – Standard Basket

Bell Medium – left or right

75112, Revision 0 – Standard Basket

95512, Revision 0 – Extra Large (ski) Basket

MD600

82812, Revision 0 – Standard Basket

Options

70405, Revision 3 – Walkway

70402, Revision 1 – Lid Door

(1) Lid

CARGO BASKET LID FABRICATION

Complete
(initial or SCA #)

Work Order: 2017-173

Date Open: Oct 26/2017

AD
73-04
05

1. Rim Assembly – Basket Lid

- a. Cut and fit $\frac{3}{4}$ " x 0.035 material to fit rim jig, 45 degree ends.
 - i. 1 or 2 lid prop bushing holes in short tube – refer to drawing
- b. Record material PO on attached material list.
- c. Remove writing on tubes with acetone and scotch bright.

AD
73-04
05

2. Weld Rim Assembly

- a. Record welding rod PO on attached material list.

AD
73-04
05

3. Inspection

- a. Rim for complete welds

AD
73-04
05

4. Frame assembly – Lid

- a. General
 - i. Vent holes shall be #30 (0.129), and located inside the structure wherever possible to allow venting of weld gasses through existing holes (i.e. lid prop bushing)
- b. Insert rim from step 2 into jig.
- c. Cut and fit $\frac{3}{4}$ " x 0.035 material, 21" long, for lid cross members.
- d. Record material PO on attached material list.
- e. Remove writing on tubes with acetone and scotch bright.
- f. Drill vent holes into rim to vent cross members into rim.
- g. Locate cross members in lid rim. Refer to drawing for spacing of cross members. Clamp cross members with C-clamps to jig.

AD
73-04
05

5. Frame assembly – Lid with optional walkway modification

- a. Fit cross members to rim in accordance with step 4.
- b. Attach walkway jig with C-clamps. Ensure correct orientation of rim, refer to drawing.
- c. Cut $\frac{1}{2}$ " x 0.035 material for walkway stringers to fit between lid cross members. Record material PO on attached material list.
- d. Drill vent holes into cross members at walkway stringers.
- e. Align walkway stringers on walkway jig using cleco clamps near both ends of each stringer, and clamp stringer to jig using a C-clamp in the centre.

AD
73-04
05

6. Weld frame assembly.

- a. Record welding rod PO on attached material list.
- b. Jigs must remain in place for as long as practical during welding.

AD
73-04
05

7. Inspection

- a. Frame assembly for complete welds.

CARGO BASKET LID FABRICATION

Complete
(initial or SCA #)

8. Mesh assembly.

Note: 95912 (Bell 429) does not have mesh. Skip to step 10.

- Pull sheet of expanded mesh from stock. Record material PO on attached material list.
- Cut mesh to size for lid.
- Remove surface rust with scotch-brite.
- Ensure lid is prepared for mesh on the correct side.

9. Weld mesh to frame assembly per drawing.

- General welding requirements for all lids:
 - Every intersection on all edges.
 - First 5 intersections along cross members, then every second intersection.
- MIG weld both short sides.
- Clamp lid over spacer at centre of lid to pre-tension mesh.
 - $\frac{3}{4}$ " for lids under 76"
 - 1" (check) for lids over 76"
- Weld remainder of mesh as indicated in a.
- Record welding rod PO on attached material list.

10. Weld lid components.

- Handle brackets, locate in accordance with drawing.
 - Standard location: $\frac{1}{4}$ " outside of last cross member on both ends.
 - Record handle bracket WO and welding rod PO on attached material list.
- Lid prop bushing(s).
 - one or two in accordance with drawing.
 - Record lip prop bushing WO and welding rod PO on attached material list.
- Placard bracket. – not installed on 95912 (Bell 429)
 - Locate on cross member to set bracket in centre bay of lid.
 - Record placard bracket WO and welding rod PO on attached material list.

11. Clean up

- Grind high spots off mesh welds.
- Tighten mesh using special pliers. Tighten enough to remove "oil canning", where mesh springs in or out.
- Straighten lid using frame attached under welding table. Work carefully, avoid excessive force to prevent kinking rim tubes.
- Drill #9 through lid prop bushing(s). De-burr hole(s).
- ~~Drill for lid bumpers using $\frac{1}{4}$ " (#3) centre drill.~~
 - ~~3 places for lids under 76"~~
 - ~~4 places for lids over 76"~~
- Remove surface rust with scotch-brite pad.

12. Final Inspection

To be completed by a different person than the previous steps.

- Basket lid assembly for complete welds, and required minimum mesh weld locations.
- Material lists complete.
- Overall condition and conformity to drawing(s).

AD
73-04
05

AD
73-04
05

AD
73-04
05

AD

AD
73-04
02

CARGO BASKET LID FABRICATION

Complete
(initial or SCA #)

13. Powder Coating

- a. Parts are to be powder coated white in accordance with commercial practices.
- b. Record powder coating PO.
- c. Inspect powder coating on receiving.
- d. Tag lid assembly and place into stock in preparation for assembly.

AD
73-04
02

Work Order: 2017-173Date Opened: Oct 26/2017

Material Tracking Sheet
Bell 206L / 407
Extra Wide Ski Basket Lid Fabrication

1 of 2

Ass'y Step	Qty	Detail Drawing	Part Number	Description	Material	PO/WO
	<u>1</u>		94612-01	Lid Assembly		
Step 1				<i>Rim Assembly</i>		
	. 2		--	3/4" Tube - Long Rim (97.0")	4130 Steel, 3/4" x 0.035 Sqr. Tube	<u>17055</u>
	. 2		--	3/4" Tube - Short Rim (22.5")	4130 Steel, 3/4" x 0.035 Sqr. Tube	<u>2017-153</u>
Step 2				<i>Weld Rim Assembly</i>		
	. A/R		--	Welding Rod	ER70S-2 TIG Rod	<u>16078</u>
Step 3				<i>Inspection - Rim</i>	None	
Step 4				<i>Frame Assembly</i>		
	. 4		--	3/4" Tube - Cross Member (21")	4130 Steel, 3/4" x 0.035 Sqr. Tube	<u>2017-153</u>
Step 5		70405		<i>Option: Frame Assembly - with walkway</i>		
	. 10		--	1/2" Tube - walkway	4130 Steel, 1/2" x 0.035 Sqr. Tube	<u>17082</u>
Step 6				<i>Weld Frame Assembly</i>		
	. A/R		--	Welding Rod	ER70S-2 TIG Rod	<u>16078</u>
Step 7				<i>Inspection - Frame Assembly</i>	None	
Step 8				<i>Mesh Assembly</i>		
	. 1		--	Mesh (lid - 96" x 22")	3/4-16F Expanded Mild Steel sheet	<u>17025</u>
Step 9				<i>Weld Mesh</i>		
	. A/R		--	Welding Rod	ER70S-6 MIG Wire	<u>16078</u>

Work Order: 2017-173

Material Tracking Sheet

2 of 2

Bell 206L / 407

Date Opened: Oct 26/2017

Extra Wide Ski Basket Lid Fabrication

Ass'y Step	Qty	Detail Drawing	Part Number	Description	Material	PO/WO
Step 10				<i>Weld Lid Components</i>		
	. 1	84262	84262-01	Upper Handle Bracket Assembly		2016-147
	. . 4		36273-01	Lid Bracket	321 Stainless, 0.050 Sheet	
	. . 2		36275-02	Support	304 Stainless, 5/16" Rod	
	. A/R		--	Welding Rod	ER308L TIG Rod	17066
	. 1		49216-01	Spacer (Lid prop)	304 Stainless, 1/2" Dia.	2015-84
	. A/R		--	Welding Rod	ER308L TIG Rod	17066
	. 1		36204-10	Placard Bracket	1018 Steel, 0.035" Sheet	2016-119
	. A/R		--	Welding Rod	ER70S-2 TIG Rod	16078
Step 11				<i>Clean Up</i>		
Step 12				<i>Inspection - Final Assembly</i>		
Step 13				Powder Coating		17105